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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,059	07/28/2000	Fan Zhou	FORE-71	2638

7590 04/28/2004
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EXAMINER

KADING, JOSHUA A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 04/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/628,059

Applicant(s)

ZHOU ET AL.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiussi et al. (U.S. Patent 5,689,506) in view of Parruck et al. (U.S. Patent 6,229,812 B1) in further view of Newman (U.S. Patent 5,367,518) and further in view of Yamanaka et al. (U.S. Patent 5,619,495).

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In regard to claim 1, Chiussi discloses "a switch for switching packets in a network comprising:

a plurality of port cards which send packets to and receive packets from the network" (figure 11, elements 1110 and 1150); and

15

"...each fabric having a plurality of queues in which portions of packets...are stored, each queue corresponding to one of the port cards..." (figure 11, where element 1130 constitutes a fabric used for switching portions of the packets; figures 3, and 4 where the input ports have a plurality of queues in them as is read in col. 3, lines 65 where the buffering is taken to mean there are buffers or queues in the ports; and as
20 can be seen from figures 3, 4, and 11 the inputs to the fabric corresponds to one input per port card).

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However, Chiussi lacks what Newman discloses, that is "a plurality of fabrics connected to the port cards for switching portions of the packets (figure 13, elements 8-0, 8-1 where each fabric of the plurality of fabrics operates according to the fabric of Chiussi et al.).

5 It would have been obvious to one with ordinary skill in the art at the time of invention to include the plurality of switching fabrics in place of the single fabric for the purpose of increasing switching throughput. The motivation being to allow for a higher data switching rate.

 Chiussi and Newman also lack what Parruck discloses, that is "...each fabric
10 having a determining mechanism which determines which queue the portions of the packet should be placed in, the determining mechanism is dynamic to reflect changes in the port card quantity without any change in connection data of the packets (figure 3, where it is clear that the data coming in on element 310 is routed or sent by a mechanism to the appropriate queue elements 302(a-x); it should also be noted that if
15 the port card quantity were to change the determining mechanism would still be able to send the data to the appropriate queue and to thus to the final destination, allowing the connection data to remain intact)."

 It would have been obvious to one with ordinary skill in the art at the time of invention to include the "determining mechanism" with the switching mechanism to
20 further assist the routing capabilities of the switch. The motivation being to allow for faster switching by "presorting" the data with the determining mechanism.

Chiussi, Newman, and Parruck also lack what Yamanaka discloses, that is the packets are portions of packets, or "stripes" (figure 30 where the header processing unit separates the header from the data effectively turning them into fragments, or stripes).

5 It would have been obvious to one with ordinary skill in the art at the time of invention to include the "stripes" with the rest of the switch for the purpose of processing regular data and address data simultaneously. The motivation being that the dual processing allows for a faster switching process.

10 In regard to claim 2, Chiussi, Parruck, Newman, and Yamanaka disclose the switch according to claim 1. Chiussi, Newman, and Yamanaka lack "each fabric has a memory controller having the queues and the determining mechanism." However, Parruck further discloses "each fabric has a memory controller having the queues and the determining mechanism" (figure 3 where the determining mechanism as defined in claim 1 and the queues, elements 302(a-x), can be considered part of the same
15 component; in this case the memory controller has the queues (memory) and the determining mechanism (controller) all in one component as can be seen in figure 3). It would have been obvious to one with ordinary skill in the art at the time of invention to put the "determining mechanism" with the "queues" in a "memory controller" for the reasons and motivation as in claim 1.

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In regard to claim 3, Chiussi, Parruck, Newman, and Yamanaka disclose the switch according to claim 2. Parruck, Newman, and Yamanaka lack "...an input lookup

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which identifies in which queue portions of the packet are placed.” However, Chiussi further discloses “...an input lookup which identifies in which queue portions of the packet are placed” (figure 8, where the tables represent address tables that store the addresses of the incoming data, thus storing the location of the data in the queues). It would have been obvious to one with ordinary skill in the art at the time of invention to include the “input lookup” with the “determining mechanism” of claim 2 for the purpose of having a list of the location of the data. The motivation being to allow for easy access to the data by use of the lookup.

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Allowable Subject Matter

Claims 4-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: Claims 13-21 are allowable because the prior art of record fails to teach, in combination with other claim limitations, “changing the number of port cards in the switch”.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within
5 TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later
10 than SIX MONTHS from the date of this final action.

Response to Arguments

The objection to the drawings is withdrawn due to applicant's newly submitted drawings filed on 4 February 2004.
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The objection to the abstract is withdrawn due to applicant's amended abstract submitted 4 February 2004.

The objections to claims 1, 2, 3, 5, 7, 12-15, and 17-21 are withdrawn due to
20 applicant's amendments filed 4 February 2004.

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Applicant's arguments, see Remarks, page 11, paragraph regarding claim 13, filed 4 February 2004, with respect to claim 13 have been fully considered and are persuasive. The 35 U.S.C. 112 first paragraph rejection of claim 13 has been withdrawn.

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Applicant's arguments, see Remarks, pages 12-13, paragraphs regarding claims 6, 9, 10, 13, 14, 16, 19, and 20, filed 4 February 2004, with respect to claims 6, 9, 10, 13, 14, 16, 19, and 20 have been fully considered and are persuasive. The 35 U.S.C. 112 second paragraph rejection of claims 6, 9, 10, 13, 14, 16, 19, and 20 has been withdrawn.

10

Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

20

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joshua Kading
Examiner
Art Unit 2661

10 April 7, 2004



KENNETH VANDERPUYE
PRIMARY EXAMINER